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Navy Family Housing PC Model Users Guide

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May 1992

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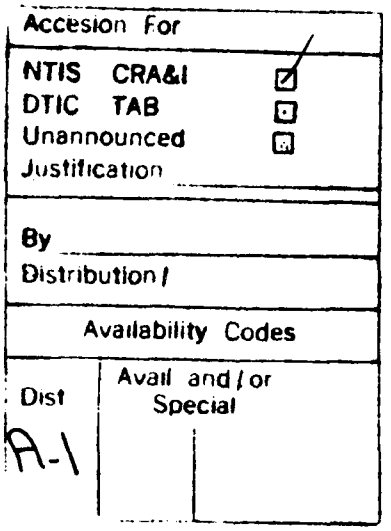

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Prepared pursuant to Department of Defense Contract MDA903-90-C-0006.

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NAVY FAMILY HOUSING PC MODEL USERS GUIDE

INTRODUCTION

The Navy Family Housing PC Model allows the user to estimate the current and projected family housing deficit or surplus at virtually any Navy housing complex. In doing so, the model generates unofficial versions of Department of Defense family housing forms used by the Naval Facilities Engineering Command (NAVFAC). It does so by replicating in a personal computer (PC) environment many of the mainframe programs currently used by the Navy's Facilities Systems Office (FACSO).

The model is not intended to replace FACSO programs. It is designed to analyze only one complex at a time, and it cannot generate continental United States (CONUS), worldwide, or multi-Service summaries. More important, it relies on FACSO to initially process and provide most of the inputs.

Instead, the model is meant to be a complement to FACSO. By using it for sensitivity analyses and "what-if" exercises (the user can easily see the effects of changing various inputs), NAVFAC can generate fast responses to ad hoc inquiries without imposing any burden on FACSO. It can also provide the user with valuable insights into the relationships between key inputs and outputs, along with a better understanding of the workings of the FACSO programs.

HARDWARE AND SOFTWARE REQUIREMENTS

The model requires a minimum configuration of hardware and software to execute properly. The PC must have a hard disk and at least one floppy drive (either 5 1/4" or 3 1/2"). The target machine is IBM-compatible with at least a 20MB hard drive and at least 2MB of memory [640K of random access memory (RAM), 384K of extended memory, and another 1MB of extended or expanded memory]. The user must have the disk operating system (DOS) software (Version 3.0 or later) and Lotus 1-2-3 software (Release 3.0 or later) to run the model.[1] The model is configured to

[1]This guide assumes that the user understands basic DOS and Lotus commands/operations.

print on a Hewlett-Packard LaserJet III, but can be reconfigured to accommodate other printers.

MODEL FILES

The model consists of 10 Lotus 1-2-3 spreadsheet (.WK3) files, each of which is described below. Most of the spreadsheet files also have an accompanying format file with the same name but a different suffix (.FM3 instead of .WK3). The relationships among these spreadsheets are summarized in Figure 1.

01_START.WK3

This file contains macros that operate the model. Its contents are protected (and in some cases hidden) to prevent the user from inadvertently damaging any data or commands.

PERSDATA.WK3

This file contains current and projected personnel data including the following:

- Current Personnel Strengths ("B" Document)
- Prior Year Separated Data ("C" Document)
- Projected Personnel Strengths ("J" Document)
- Family Housing Marriage Factors.

HOUSDATA.WK3

This file contains current and projected housing asset data including the following:

- Available Vacant Private Rental Housing ("D" Document)
- Available Vacant FHA/VA Rental Housing ("E" Document)
- Military Housing Inventory ("F" Document)
- Military Housing Occupancy/Vacancy ("G" Document)
- Redesignation of Existing Units ("K" Document)
- Military Construction (MILCON) Units Under Contract ("L" Document)

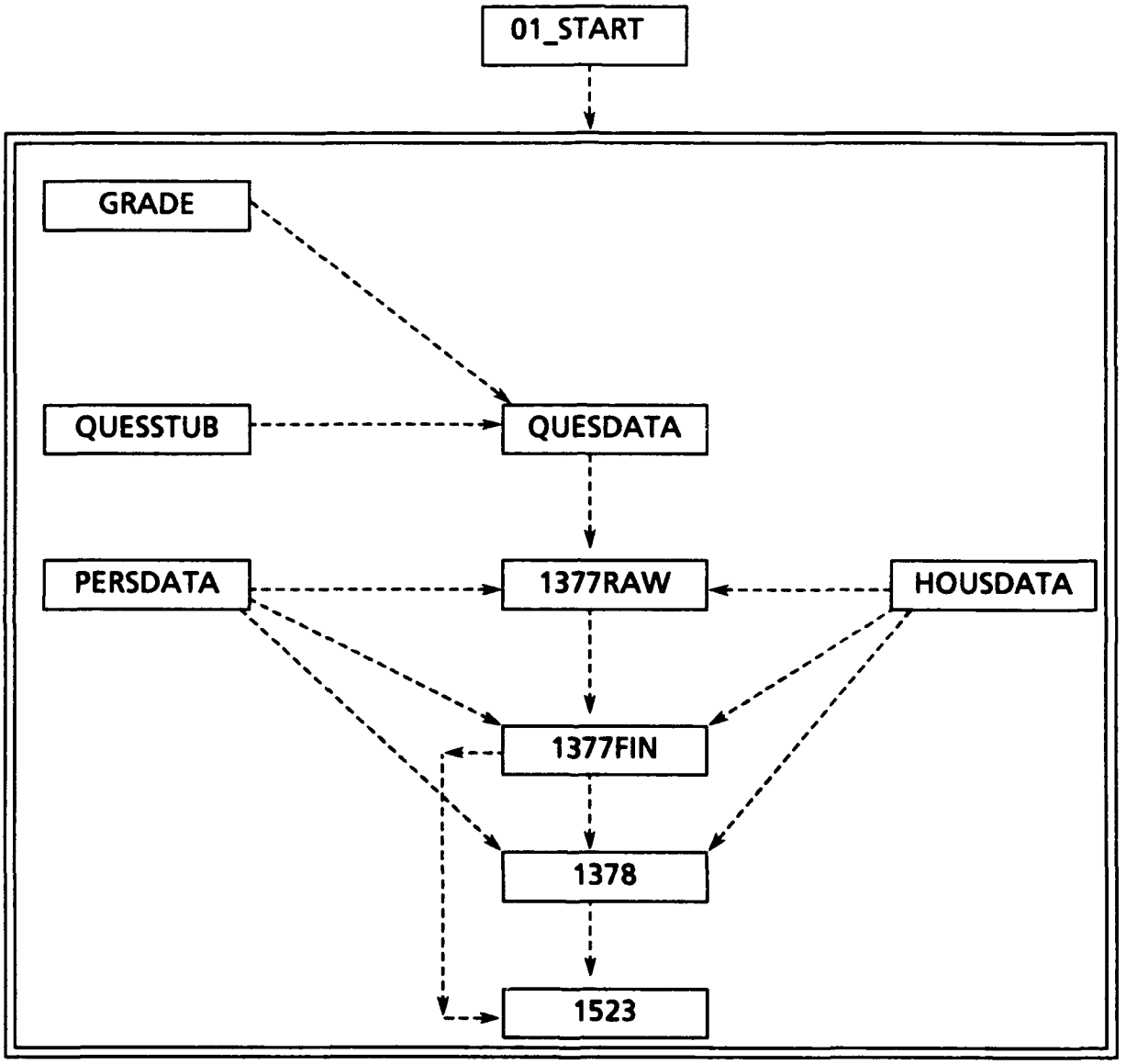

FIG. 1. RELATIONSHIPS AMONG MODEL SPREADSHEETS

- MILCON Units Approved ("M" Document)
- Long Range Leased Units ("N" Document)
- Current Leased Units ("O" Document)
- Substandard Military Units Occupied ("P" Document)
- Under Construction/Firmly Planned Units ("Q" Document)

QUESDATA.WK3

This file contains family housing questionnaire (DD Form 1376) data. It also contains supplemental data (maximum allowable housing cost, bedroom requirements, suitability codes, confirm/reverse status) from the Master Activity General Information Control (MAGIC) database.

1377RAW.WK3

This file contains the DD Form 1377, *Raw Data – Tabulation of Family Housing Survey*. The model calculates its contents using data from PERSDATA.WK3, HOUSDATA.WK3, and QUESDATA.WK3.

1377FIN.WK3

This file contains the (final) DD Form 1377, *Tabulation of Family Housing Survey*. The model calculates its contents using data from PERSDATA.WK3, HOUSDATA.WK3, QUESDATA.WK3, and 1377RAW.WK3.

1378.WK3

This file contains the DD Form 1378, *Determination of Housing Requirements and Project Composition*. The model calculates its contents using data from PERSDATA.WK3, HOUSDATA.WK3, 1377RAW.WK3, and 1377FIN.WK3.

1523.WK3

This file contains the DD Form 1523, *Military Family Housing Justification*. The model calculates its contents using data from 1378.WK3 and 1377FIN.WK3 (although NAVFAC allows other sources to be used for many of the cells in this form).

QUESSTUB.WK3

This file contains the record layout used to convert questionnaire data from an ASCII (American Standard Code for Information Interchange) text file to a Lotus spreadsheet file. It also contains the column headers used to label questionnaire data that have been converted (parsed) from text to spreadsheet format. These labels/headers are required for subsequent model calculations and are helpful in interpreting the questionnaire data. This file is not intended to be directly accessed or modified by the user.

GRADE.WK3

This file also contains the table used for classifying key civilians as either officer- or enlisted-equivalent (based on their pay grade). This file is not intended to be directly accessed or modified by the user.

USING THE MODEL

Loading the Model

The model files listed above must be copied into a directory named C:\DATA\NA101\. If that directory does not already exist, the user must create it before loading the files. We strongly recommend that backup copies of the model files be maintained on disk and/or diskette.

The model can then be loaded by entering Lotus 1-2-3 and retrieving the 01_START.WK3 file from the C:\DATA\NA101\ directory. The macros in this file will automatically start the model, set the default directory (for the current session only), and bring other model spreadsheets into memory. The macros will also call up the main menu, which will appear at the top of the screen. Any submenus will appear on the next line of the screen when the appropriate menu option is highlighted.

Menu Selections

The model is menu-driven. Menu options can be selected in any of three ways: by typing the first letter of the desired option (e.g., **<Q>** for Quit); by using the **<TAB>** key to move the cursor to the desired option and then typing **<ENTER>**; or by moving a mouse to the desired option and clicking the appropriate button.

The first menu that the user will see (referred to hereafter as the main menu) has the following seven options:

- Automated Inputs
- Manual Inputs
- Recalc Model
- Browse
- Print
- Lotus
- Quit.

These main menu options, along with any associated submenus, are described below.

Automated Inputs

This option allows the user to enter/update a complex's housing asset data (HOUSDATA.WK3), personnel data (PERSDATA.WK3), or questionnaire data (QUESDATA.WK3) in an automated fashion by bringing external files into the model. The submenu has four options, which are described below.

Housing. In order to use this option the user must have the housing data in a file with a format identical to HOUSDATA.WK3.

- The model will ask for the housing asset data filename. If you do not enter the complete path and filename, an error message will appear. The model will then copy the data from this file into the model file.
- The model will ask you if you want to save the changes. Indicate <Y> for yes or <N> for no. If the changes are not saved, they will be available for the current Lotus session only (or until they are written over).
- If you indicated "yes" above, the model will ask you if you want to save the file under a different name (i.e., other than the existing HOUSDATA.WK3). Indicate <Y> for yes or <N> for no.
- If you indicated "yes" above, the model will ask you to provide the new filename. If you do not enter the complete path and filename, an error message will appear.

Personnel. In order to use this option the user must have the personnel data in a file with a format identical to PERSDATA.WK3.

- The model will ask for the personnel data filename. If you do not enter the complete path and filename, an error message will appear. The model will then copy the data from this file into the model file.
- The model will ask you if you want to save the changes. Indicate <Y> for yes or <N> for no. If the changes are not saved, they will be available for the current Lotus session only (or until they are written over).
- If you indicated "yes" above, the model will ask you if you want to save the file under a different name (i.e., other than the existing PERSDATA.WK3). Indicate <Y> for yes or <N> for no.
- If you indicated "yes" above, the model will ask you to provide the new filename. If you do not enter the complete path and filename, an error message will appear.

Lotus Survey. This option allows the user to import questionnaire data[2] that are already in a Lotus 1-2-3 spreadsheet. The model will copy these new data directly into the QUESDATA.WK3 file.

- The model will ask for the questionnaire data filename. Include the complete path and filename or an error message will appear.
- The model will automatically save the data as QUESDATA.WK3.

Text Survey. This option allows the user to import questionnaire data that are in ASCII text format. The model will first convert the data into spreadsheet format and then save the resulting file.

- The model will ask for the questionnaire data filename. Include the complete path and filename or an error message will appear.
- The model will automatically parse the data (this may take several minutes, depending upon the size of the file being parsed and the type of PC being used).
- The model will ask you to input the installation name, the complex, and the applicable fiscal year.

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[2]Whether the questionnaire data are in spreadsheet or text format, the input file must include supplemental data (maximum allowable housing cost, authorized number of bedrooms, housing suitability code, and unsuitability reversal indicator) generated by FACSO.

- The model will ask you if you want to save the questionnaire data in the active model file (QUESDATA.WK3). Indicate <Y> for yes and <N> for no.
- If you indicated "no" above, the model will ask you for the name of the Lotus file (new or existing) into which you want the data saved.

Manual Inputs

This option allows the user to manually update a complex's housing asset data and/or personnel data. The submenu has two options, which are described below.

Housing. The model will open HOUSDATA.WK3 and allow you to move around in the file using the arrow keypad (do not use the <**ENTER**> key until you are finished). You are allowed to change any of the items in blue.

- Once you are finished updating the file, type <**ENTER**>. The model will recalculate the protected cells (subtotals and totals) and then ask you if you want to save the changes. Indicate <**Y**> for yes and <**N**> for no. If the changes are not saved, they will be available for the current session only (or until they are written over).
- If you indicated "yes" above, the model will ask you if you want to save the file under a different name (i.e., other than the existing HOUSDATA.WK3). Indicate <**Y**> for yes or <**N**> for no.
- If you indicated "yes" above, the model will ask you to provide the new filename. Enter the complete path and filename or an error message will appear.

Personnel. The model will open PERSDATA.WK3 and allow you to move around in the file using the arrow keypad (do not use the <**ENTER**> key until you are finished). You are allowed to change any of the items in blue.

- Once you are finished updating the file, hit <**ENTER**>. The model will ask you if you want to save the changes. Indicate <**Y**> for yes and <**N**> for no. If the changes are not saved, they will be available for the current session only (or until they are written over).
- If you indicated "yes" above, the model will ask you if you want to save the file under a different name (i.e., other than the existing PERSDATA.WK3). Indicate <**Y**> for yes or <**N**> for no.
- If you indicated "yes" above, the model will ask you to provide the new filename. Enter the complete path and filename or an error message will appear.

Recalc Model

This option allows the user to update the 1377RAW.WK3, 1377FIN.WK3, 1378.WK3, and 1523.WK3 files. Recalculating the model can take several minutes (recalculation time will depend upon the type of PC being used). This option has no submenus, but the model will ask you (after the recalculation is complete) if you want to save the changes.

Browse

This option allows the user to view any of the DD forms or input data files (the data in these files will be protected and thus cannot be changed). This feature is particularly useful for looking at the results of automated inputs or recalculations. Choose the file you would like to browse, and use the arrow keypad to move within that file. Type <**ALT B**> to return to the menu. The Forms submenu contains four options – Raw 1377, Final 1377, 1378, and Initial 1523 – while the Inputs submenu contains two options – Housing and Personnel.

Print

This option allows the user to print any of the DD forms or input data files. The model is set up to print on a Hewlett-Packard LaserJet III in landscape mode. Choose the file you would like to print. The model will return you to the menu upon completion of the print job. The Forms submenu contains four options – Raw 1377, Final 1377, 1378, and Initial 1523; the Inputs submenu contains two options – Housing and Personnel.

Lotus

This option exits the model, returning the user to Lotus 1-2-3.

Quit

This option exits the model and exits Lotus 1-2-3, returning the user to DOS.

APPLICATIONS

Creating Input Data Files

Input data files are created using the "Automated Inputs" or "Manual Inputs" submenus. In most cases, the user will be given the choice of saving the resulting

spreadsheet as the model file (QUESDATA.WK3, PERSDATA.WK3, HOUSDATA.WK3) or under a different name. To generate requirements using the new inputs, the data must be saved as the model file. To create files that will be analyzed at a later time (e.g., single files for multiple complexes or multiple files for a single complex), the data should be saved under a different name. However, it is important to remember that once the model saves an input file under a different name, it retrieves the appropriate model file (which will not have been changed) for subsequent use.

Questionnaire data will usually be obtained as a text file, so the "Text Survey" option of the "Automated Inputs" submenu will initially have to be used. If the user chooses to save the resulting spreadsheet under a different name (or if the user is able to otherwise obtain questionnaire data in the proper spreadsheet format), the "Lotus Survey" option can then be used for subsequent iterations.

On the other hand, personnel and housing asset data will usually be obtained in hard-copy form, and the "Manual Inputs" submenu will initially have to be used. If the user chooses to save the resulting spreadsheet under a different name (or if the user is able to otherwise obtain these data in the proper spreadsheet format), the "Automated Inputs" submenu can then be used for subsequent iterations.

Generating Requirements

To generate requirements for a complex, the user must read in the three input data files (questionnaire, personnel, and housing) using the "Automated Inputs" and/or "Manual Inputs" submenus. The user must then select the "Recalc Model" main menu option, which will perform all of the calculations on the DD Forms 1377, 1378, and 1523. The user can then view the results on the monitor via the "Browse" main menu option, and/or on paper via the "Print" main menu option.

Alternative Scenarios

The ability to analyze alternative scenarios is one of the model's strengths. Complex-level personnel and/or housing asset data can be changed either by reading in different input files (via the "Automated Inputs" submenu) or by manually changing selected values (via the "Manual Inputs" submenu).[3] The "Recalc Model," "Browse," and "Print" options can then be used as described above. For example, the

[3]The model is not designed to handle changes in questionnaire-based parameters.

impact of adding or removing a ship can be estimated by changing the appropriate "J" document cells in PERSDATA.WK3 and recalculating. Similarly, the impact of adding or removing a MILCON project can be estimated by changing the appropriate "M" document cells in HOUSDATA.WK3 and recalculating.

Direct Access of Model Files

All of the model spreadsheets can be accessed directly through Lotus (i.e., without first calling up 01_START.WK3). In general, however, this practice is strongly discouraged. The recalculation process will be much slower; it is harder to ensure that all the DD Forms will be properly recalculated; and there is a high risk of overwriting cells that are meant to be internally generated. The only reasons for accessing these files outside of the model should be to copy them (as alternative or backup versions) or to print them (using printers/settings other than those defined in the model).

Errors

The model has messages and screens that can accommodate most errors. However, in the event of an error that interrupts processing, the user should exit the model by typing the <CNTL> and <BREAK> keys, and then return to the model's main menu by typing the <ALT> and <M> keys.

REPORT DOCUMENTATION PAGE

Form Approved
OPM No. 0704-0188

1. AGENCY USE ONLY *(Leave Blank)*	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	May 1992	Research Document

4. TITLE AND SUBTITLE
Navy Family Housing PC Model Users Guide

5. FUNDING NUMBERS
C MDA903-90-C-0006
PE 0902198D

6. AUTHOR(S)
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7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
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8. PERFORMING ORGANIZATION REPORT NUMBER
LMI-NA101RD1

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)
Ms. Avis Bennett/Mr. Bill Pearson
Family Housing Planning and Support Division
Naval Facilities Engineering Command
Hoffman Building II, Room 10N41
Alexandria, VA 22332-2300

10. SPONSORING/MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION/AVAILABILITY STATEMENT
A: Approved for public release; distribution unlimited

12b. DISTRIBUTION CODE

13. ABSTRACT *(Maximum 200 words)*

The Naval Facilities Engineering Command (NAVFAC) estimates family housing requirements at U.S. Navy installations using mainframe computer programs that are maintained and run by the Navy's Facilities Systems Office (FACSO). The Logistics Management Institute (LMI) has replicated many of these programs in a personal computer (PC) environment, creating a Lotus 1-2-3 spreadsheet model to facilitate ad hoc analyses and to increase NAVFAC's understanding of the FACSO programs. This users guide explains the structure, logic, and operations of the PC model.

14. SUBJECT TERMS
Military housing, family housing, housing requirements, personal computer (PC) models, spreadsheet analysis, Lotus 1-2-3

15. NUMBER OF PAGES
12

16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
Unclassified	Unclassified	Unclassified	UL